



EDEMET

EDEMET AUTOMATABLE FLOTATION MACHINE



The EDEMET Automated Laboratory Flotation Machine is designed to minimize the differences in the results obtained when repeating tests under similar operating conditions, as a consequence of human operation and mechanical elements of the machine. For that purpose, it is provided with a frequency converter constantly controlling the rotation speed of the impeller, minimizing variations in the voltage of the grid. Additionally, it has an internal and independent supply of air for flotation tests, which avoids the contamination by oils or other impurities present in air grids. Optionally, gas supply can be controlled and registered, programming even different flows during a flotation test.

A single screen with a menu specifically designed for the flotation machine, allows an easy reading of the variables and adjusting of any parameters before or during a test.

The ability to update the EDEMET flotation machine through an internet connection, extends its useful life and even allows to add new features in the future.

Ability to register all the variables used in the test and operate remotely, generating automated reports and downloading data sets to different software platforms, in a simple way, from a PC, Laptop, Tablet or even a Smartphone, making the tasks of operators and supervisor easier.

Various accessories allow that every user, according to his needs, configures his own level of automatization.

Accesorios

Rotatory froth remover

pH control

Transfer pumps

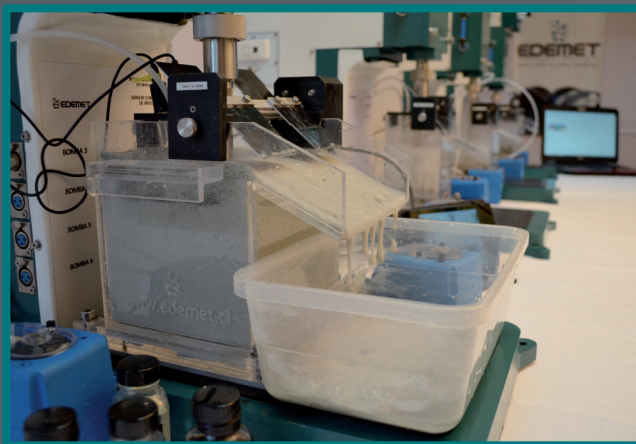
Level control

Reagent dosing pumps

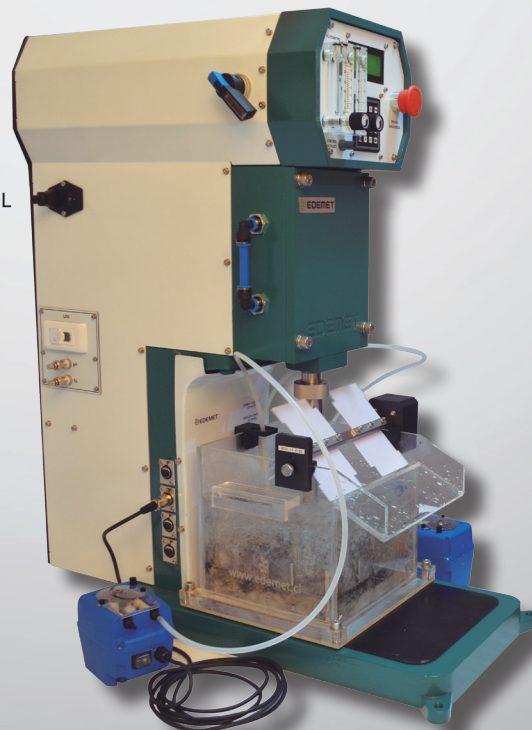
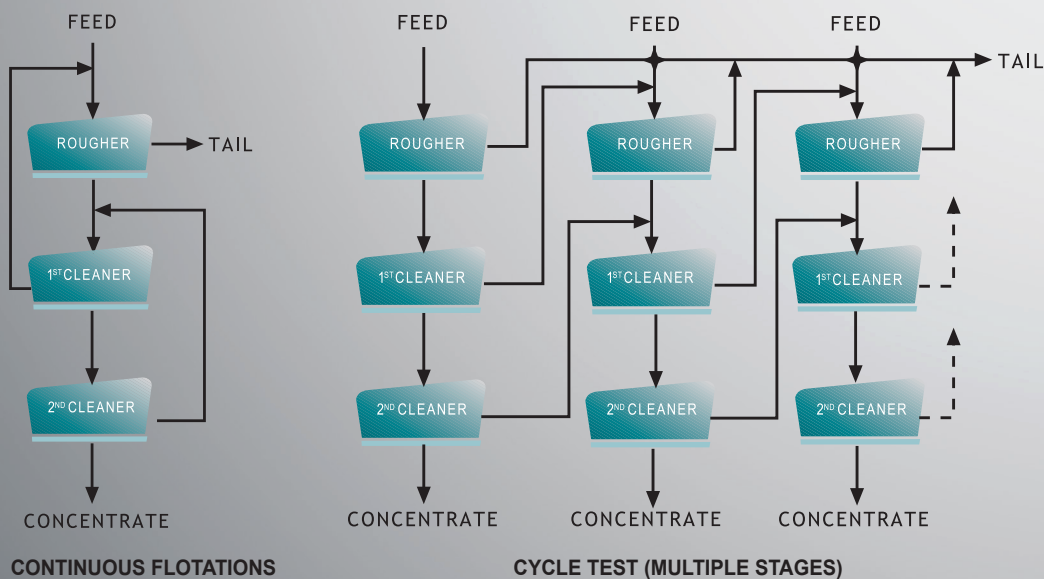
Online pH record

Main Features:

- Simple menus in different languages, specifically designed by EDEMET for the laboratory flotation machine, allow learning to operate the machine in minutes, without having to constantly revisiting operation manuals.
- Control every variable in just one screen. Speed, time, pH, ORP, gas flow, froth removal, etc.
- Motor speed controlled by a frequency inverter with a single phase 220V input
- Programmable conditioning and flotation times
- 2 rotameters or digital flowmeter for gas flow reading and control
- Internal memories allow to store parameters and repeat tests
- PC, Tablet or Smartphone connection
- Internal air supply and alternative bypass connection for external gas input
- Interchangeable 1.5, 2.7 and 5 lts. acrylic cells
- Ability to control up to 6 peristaltic pumps

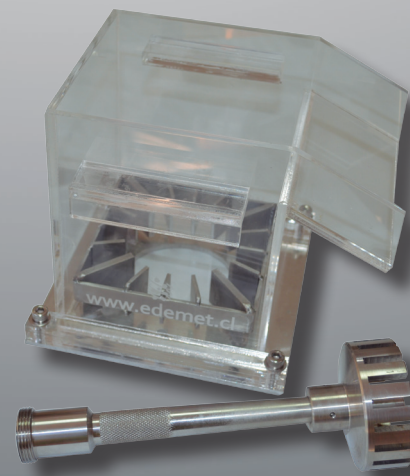


ADVANTAGES OF CONDUCTING CONTINUOUS FLOTATIONS OVER CYCLE TESTS



In order to simulate or reproduce the metallurgical results of an industrial flotation circuit, a series of batch flotation tests are normally performed at a small scale. These tests are commonly known as cycle tests, being able to be done in open circuit and more frequently in close circuit. These include a rougher stage, with or without scavenger, and two or three cleaner stages, with or without regrinding of the rougher concentrate and recirculation of cleaning tailings to the preceding stages respectively.

This tedious and complex operation is only useful if a steady regime condition is achieved, in terms of mass and final concentrate grade, after repeating the cycle numerous times, generally after five or six cycles. Once completing this, the corresponding calculations shall be performed considering a series of masses and intermediate grades, existing there several calculation methods. This includes the possibility of simplifying the test with the split factors method.



Each test is associated with errors given by the variation in the homogeneity of the mineral pulp and the manual intervention of the technician. Given that, it is clear that the use of technologies such as a continuous flotation circuit, assisted by automated rotator froth removers and on line pH control brings enormous benefits in reproducibility, time and costs.



Currently, EDEMET has the technology to continuously and stably operate, Laboratory Cells organized in flexible circuits, being able to assemble different flowsheets. This equipment allows assessing continuous processes on a laboratory scale, with an amount of sample similar to the one used in cycle testing, but allowing to obtain faster and more reliable metallurgical results with a better level of confidence. In addition, it is possible to observe other features of the process before conducting a pilot test, such as the foam stability in regime, the effect of the water quality of the process, etc. Therefore, a greater technical reliability, time saving and the ease to assess different flowsheets make the EDEMET Laboratory Flotation Machine the best option when new projects arise.

